

RAILROAD CROSSING **SECTION 130 FUNDING PROGRAM**

CPUC GUIDELINES FOR THE FEDERAL AID
AT-GRADE HIGHWAY-RAIL CROSSING PROGRAM

CALIFORNIA PUBLIC UTILITIES COMMISSION
SAFETY AND ENFORCEMENT DIVISION
RAIL CROSSINGS ENGINEERING SECTION

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Introduction

As provided by Title 23, United States Code, Section 130 (23 U.S.C. 130), the Section 130 Program provides federal funds for the elimination of hazards at existing at-grade highway-rail crossings (crossings). The purpose of Section 130 Program is to reduce the number, severity and potential of hazards to motorists, bicyclists, and pedestrians at crossings. The Section 130 Program is a cooperative effort between the Federal Highway Administration (FHWA), California Department of Transportation (Caltrans), California Public Utilities Commission (Commission), railroad companies and local agencies.

Process Overview

Crossings are selected by Commission staff for inclusion in the state wide funding list based on their hazard potential. An initial identification is done by utilizing available data sources to identify crossings that present a high hazard potential. Items evaluated include but are not limited to:

- Accident history and trends,
- Vehicle and train volumes,
- Pedestrian issues,
- Crossing geometry.

Commission staff reviews each identified crossing. The review determines which crossings are considered for Section 130 Program funds. This is based upon such factors as the federal program requirements, eligibility criteria, and if there are improvements which can be made to reduce hazards that are covered by the Section 130 Program.

An in depth field diagnostic review is conducted by representatives from the railroad company(s), local agency(s), Caltrans, and the Commission staff for each crossing that will be considered for Section 130 Program funds. These crossings are then given a priority ranking by Commission staff based on six factors, such as the potential reduction in accidents, pedestrian, bus and hazardous material vehicle usage, and an accident prediction formula.

The final priority list is created by Commission staff based on the highest ranking crossings. Commission staff annually provides the updated priority list of projects to Caltrans. Caltrans is responsible for securing and oversight of the funding as well as developing contracts. (See the Caltrans Section 130 Program Guidelines at <http://www.dot.ca.gov/hq/rail/rcsp.htm> for details.)



Once a project is contracted by Caltrans, a Commission General Order (GO) 88-B (Rules for Altering Public Highway-Rail Crossings) (see <http://www.cpuc.ca.gov/PUC/safety/Rail/Crossings/go88b.htm> for details) request must be filed by the railroad company or local agency and approved by Commission staff before beginning construction. Thirty days after the completion of the project, the railroad company or local agency must submit a standard Commission Form G (Report of Changes at Highway Grade Crossing and Separations) to the Commission's Rail Crossing Engineering Section staff with a copy to Caltrans. The Form G may also be submitted electronically to the Commission staff. (See <http://www.cpuc.ca.gov/PUC/safety/Rail/Crossings/formg.htm> for details.)

Typical Annual Process Timeline

Month	Process
September	Identify Candidate Locations
October - December	Evaluate Candidate Locations
January	Prioritize Nominations and Identify Field Diagnostic Locations
January - April	Conduct Field Diagnostic Reviews
April	Draft Priority List
April - July	Develop Projects for each Location to be funded
August	Finalize and Submit Priority List and Projects to Caltrans



Crossing Selection

Not all crossings are eligible for financing with Section 130 Program funds. Crossings must be an at-grade vehicular highway-rail crossing on a public road. Crossings which are not eligible include:

- Crossings solely for the use of pedestrians and/or bicyclists, including station crossings,
- Crossings used only by light rail vehicles,
- Private crossings,
- Grade separated crossings.

The Section 130 Program funding will also not be used to fund improvements for the sole purpose of qualifying a local agency to apply for a "Quiet Zone" with the United States Secretary of Transportation pursuant to Title 49 Code of Federal Regulation Section 222 (49 C.F.R 222), or for demonstration or pilot projects.

Corridor Projects

A corridor project is comprised of two or more crossings that are located in geographic proximity, or within a single jurisdiction. These projects are typically to implement a specific improvement at a large number of crossings without necessarily addressing all hazards at each individual location. This may be due to changes in standards (such as the CAMUTCD) which impact a large number of crossings, or a specific identified hazard in an area (such as fog, or a parallel road).

Corridor projects are not nominated by Commission staff but requested by a local agency or railroad company, and require a significant financial contribution/match from the applicant. The elimination of the hazard through these improvements must outweigh, or include addressing all of the hazards at each location. Corridor projects still compete in the statewide hazard ranking to be considered for funding, and are not guaranteed funding.



Review Process

Commission staff will review each identified candidate crossing to determine if it is eligible for Section 130 Program funds. The Commission staff considers the crossing current conditions, including factors such as the train and vehicle counts, crossing geometrics, accident history, and existing warning devices. Commission staff will nominate the crossing if it presents hazards that can be eliminated through the Section 130 Program funds. The nominated crossings are then ranked on hazard potential and the highest ranked crossings are selected for field diagnostic reviews based on the anticipated funding levels.

Commission staff conducts a field diagnostic review for each crossing considered for funding. The Field Diagnostic Team consists of representatives from the railroad company(s), local agency(s), Caltrans, and the Commission staff. This review consists of a detailed analysis of the crossing. During the field diagnostic review, appropriate hazard elimination recommendations are evaluated and determined, or if no project can be developed.

Once the field diagnostic reviews are completed, Commission staff prioritizes the crossings from the field diagnostic review based on a number of factors including:

- The potential reduction in accidents and injuries,
- A Cost-Benefit analysis,
- The US Department of Transportation (U.S. DOT) Accident Prediction Formula,
- The field diagnostic team on-site review,
- The potential danger posed by regular use of the crossing by pedestrians, bicyclists, school buses, transit buses, and hazmat vehicles,
- Other State specific factors.

After the crossings are prioritized by Commission staff, the final selection is made based on the highest ranking crossings and the anticipated funding level. Commission staff then develops each individual project package for Caltrans consisting of:

- Scope of Work
- Conceptual Plan Drawing
- Project Diagnostic Form
- Project Timeline
- Cost Estimate



The individual project packages and the final Priority List are sent to Caltrans at the beginning of August of each year.

Safety Improvements

Types of Eligible Improvements

Crossing Elimination

Closure:

Closure is a condition that occurs when vehicular traffic is removed from conflict with railroad traffic by closing the road. This includes: removal of warning devices, surfacing and approaches, and construction of barriers and/or fencing, signage, and other measures as deemed necessary during the field diagnostic review. The Section 130 Program will also match a railroad incentive payment for a closure of up to \$7,500 to a local agency.

Abandonment:

Abandonment is a condition that occurs when railroad traffic is removed from conflict with vehicular traffic through the cessation of all railroad operation or the removal of tracks from the crossing. Section 130 Program funding is not available for removal of previously abandoned railroad tracks. If, however, a railroad company chooses to abandon the crossing rather than improve it, the cost for track removal and other costs associated with returning the roadway to a safe usable condition may be allowed at the discretion and agreement of Caltrans and the Commission.

Railroad Improvements

1. **Warning Devices:** The Section 130 Program will fund the upgrade of warning devices listed in GO 75-D (Regulations Governing Standards for Warning Devices For At-Grade Highway-Rail Crossings in the State of California) (See http://docs.cpuc.ca.gov/PUBLISHED/GENERAL_ORDER/60157.htm for details). For example, the existing warning devices may consist of Commission Standard 8 (flashing light signals). An upgrade would be to replace those warning devices to Commission Standard 9 (flashing light signals with automatic gates), or Commission Standard 9-A (a Standard No. 9 warning device with additional flashing lights on a cantilevered mast arm). All new warning devices shall use 12 inch Light



Emitting Diode (LED) arrays for the flashing light signals with 24 inch hoods.

2. LED: LEDs shall be installed with all new warning devices. LEDs may be recommended where warning devices do not need to be replaced, only the flashing light signals upgraded to LEDs. Any relocation of the warning device, or installation of curbing in order to meet current clearance requirements as a result of upgrading to LEDs will be included, but replacement of the warning device will not.
3. Track Circuitry/Interconnection: Track train detection circuitry may be recommended where appropriate, or modification necessary to implement necessary advanced preemption timing.

Road Improvements

1. Active Warning: A train activated warning device placed at the crossing other than the standard railroad warning devices. Examples of such devices are train activated symbolic "NO RIGHT TURN" or "NO LEFT TURN" message signs, or "SECOND TRAIN COMING" signs.
2. Active Advanced Warning: A train activated warning device placed in advance of the crossing. It may consist of a flashing yellow light on the passive advanced warning sign, or an active sign such as "PREPARE TO STOP". The specific type of active advance warning device will be determined at the field diagnostic meeting.
3. Illumination: Illumination (street lighting) provides additional visibility at night for motorists of the crossing.
4. Interconnection: The electrical connection between the railroad active warning system and the highway traffic signal controller assembly for the purpose of preemption (the transfer of normal operation of highway traffic signals to a special control mode).
5. Median: Medians deny the highway user the option of circumventing the conventional approach lane by switching into the opposing traffic lane in order to circumvent the gates. The type, width and length of the median vary depending on the specific site conditions and are determined at the field diagnostic meeting. Median landscaping is not funded.



6. Road Geometry Improvements: Paving and reconstructing of the road to improve approach grades.
7. Signage and Striping: Signage and striping necessary to meet required Standard and provide for site specific geometric conditions.
8. Traffic Control Signals: Traffic control signals are often found on intersecting roads adjacent to crossings. Recommendations include alterations to existing traffic control signals (such as additional/updated signal heads, phases, or controllers), installation of pre-signals, queue cutter signals, and new traffic signals where warranted.
9. Utility relocation: Typically this is adjusting or relocating overhead wires to provide for clearance to the railroad or traffic devices.

Pedestrian Crossing Improvements

There are a number of treatments for crossing hazard elimination for pedestrians and bicycles which are considered. The appropriate treatments for the given situation will be determined at the field diagnostic review. These include but are not limited to:

- Sidewalk, curb and gutter
- Detectable Warning Tiles / Tactile Strips
- Pedestrian Flashers
- Pedestrian Gates
- Swing Gates
- Channelization
- Fencing
- Signage / Striping
- Crossing Surface extension and Gap fillers

Miscellaneous Items

Some items are considered on a case-by-case basis. These include pull out lanes, three or four quadrant gate systems, passive warning signage, removal of obstructions in the sight triangle, intelligent transportation systems and any other item not specifically mentioned in this guideline.



Incidental Items

Necessary repair or relocation of sidewalk, curb and gutter, road or crossing surface, and/or utilities as a result of the project construction is considered to be included in the project, and does not require specific recommendation. Similarly supportive work, such as bores and fill, necessary to implement an item are included.

Items Not Funded:

There are a number of items that are not funded by the Section 130 Program. These include:

- Significant geometric changes such as the relocation or realignment of roads or railroad tracks,
- Grade separation structures,
- Station crossings,
- Widening of a roadway for capacity improvements,
- Purchasing of right of way/easements,
- Environmental documentation (such as EIRs, traffic circulation study, or traffic signal warrant studies). Section 130 Program projects are typically categorically exempt.
- Any costs incurred prior to the execution of the service contract with Caltrans cannot be reimbursed.

There may be other improvements that a local agency wishes to implement in conjunction with a Section 130 Program project at their own expense. Such staged construction work should be coordinated between the railroad and the local agency. Any such improvements not specifically included in the recommendations are not funded by the Section 130 Program.

Under GO 72-B (Rules Governing The Construction And Maintenance of Crossings at Grade of Railroads with Public Streets, Roads and Highways in the State of California) (see http://docs.cpuc.ca.gov/PUBLISHED/GENERAL_ORDER/59565.htm for details) the railroad is responsible for maintaining the crossing surfacing within two feet of the tracks, and beyond that the local agency is responsible to maintain the road surface. If a rough crossing surface is the primary issue, the assigned Commission staff area engineer should be contacted to evaluate and assist in the resolution of the issue.



Project Construction

After a project is on the Priority List and has been submitted to Caltrans, Caltrans will proceed to program the project, complete the environmental review and acquire the funding. For more details on this process please refer to the Caltrans Guidelines at: <http://www.dot.ca.gov/hq/rail/rcsp.htm>.

Once the contracts have been issued to the railroad company and/or local agency, final design and construction work proceeds. Prior to beginning construction, the local agency (or railroad if no local agency work is involved) must file a GO 88-B request with the Commission, and receive approval for the crossing modifications.

The Section 130 Program process is separate from the GO 88-B process. Nomination and funding of a Section 130 Program project does not imply, nor grant Commission approval for the modification of the crossing(s). There are only a few instances in which a GO 88-B would not need to be filed, please refer to the GO 88-B specifications at <http://www.cpuc.ca.gov/PUC/safety/Rail/Crossings/go88b.htm> for details.

All GO 88-B authorizations and service contracts require the railroad or local agency to file Form G with Commission staff and Caltrans to acknowledge completion of the project.



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